Facility

STATUS REPORT NUMBER 9
November 15, 1964 to February 14, 1965

to

National Aeronautics and Space Administration
Washington, D. C.

on

TECHNOLOGY UTILIZATION PROGRAM
NASA Contract No. NASr-94 (00)
NASA Task Order No. NASr-94 (02)

May 27, 1965

SOUTHWEST RESEARCH INSTITUTE
SAN ANTONIO HOUSTON

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This document constitutes the Ninth Status Report (covering the period November 15, 1964 to February 14, 1965) required to be issued quarterly under Article II (C) of the above referenced contract. In order to stay within contract funds, the rate of work was somewhat decreased at the start of the period. SwRI Proposal Number 66-3350 was submitted to NASA in December to continue our assistance to NASA in this Technology Utilization program. Interim funding was granted which permitted a re-acceleration of the work after January 1, 1965. The following studies were performed:

1. a) On November 20, four (4) interim evaluations were supplied the NASA Office of Technology Utilization.

   b) On December 23, five (5) interim evaluations were supplied.

   c) On January 15, Nine (9) interim evaluations were supplied.

   d) On January 20, three (3) interim evaluations were supplied.

   e) On January 22, seven (7) interim evaluations were supplied.

   f) On February 3, three (3) interim evaluations were supplied.

   g) On February 8, eleven (11) interim evaluations were supplied.

This is a total of 42 interim evaluations supplied the NASA Office of Technology Utilization during this period.

2. On November 25, a detailed evaluation report on NASA Innovation JPL-390, "A Low Pressure Mass Spectrometer," was sent to the NASA Office of Technology Utilization. The review, including contact with the innovator, showed the innovation was only an idea without experimental verification. It was recommended that this innovation not be considered for further industrial dissemination without developing such information.

3. On December 24, a detailed evaluation report on NASA Innovation GSFC-169, "Electric Battery and Method for Operating Same," was sent to NASA. Extensive efforts were made to contact the innovator who had left NASA, and to develop additional information. From all the information obtained, it was finally concluded that the innovation did not offer major advantages over presently available commercial energy supply systems.

4. Work was restarted in late January, 1965, on several other detailed evaluations of NASA Innovations previously assigned to SwRI. These were as follow:

WOO-63	-	Poppet Force Valve Balance Adjuster
JPL-397	-	Levelometer
JPL-582	-	Command Redundance Elimination in Communication
MSC-56	-	Polymide Adhesive for Space System Applications
WS-2	-	Suggested Method for Plating Copper on Aluminum

5. During this period work was continued towards the preparation of specimens for test, as a construction material, of the Low Temperature Curing Refractory Ceramic described in NASA Flash Sheet GSFC-162.

As pointed out in Status Report Number 8, progress was slow — there were many problems related to the blending, mixing, molding and curing of the ceramic, and with the ingredients themselves. A progress report was sent the Technology Utilization Office of NASA on December 17. It showed about six man-weeks of effort had been expended to that time, that proper molds had finally been developed, and seven different pours of material completed. However, even at this point, proper quality specimens had not been obtained. The blending and mixing problems had been resolved along with those of mold design and release. The curing procedure was still under evaluation although progress had been made. The question of the proper chemical ingredients to be used was still unresolved. Further contacts were made with Goddard to try to come up with answers to these last problems; the overall studies continued.

6. On December 17, engineering drawings of the Precision Height Gauge — NASA Flash Sheet ARC-4 were sent to the Technology Utilization Office at NASA Headquarters. Design details were included which will permit a manufacturer to build instruments accurate to 0.000050 of an inch. A few design modifications were suggested by SwRI engineering designers. These changes would decrease the cost of fabrication of the gauge while still maintaining accuracy.

On January 5, 1965, the original SwRI drawings, several prints, and the Height Gauge itself were sent to the Technology Utilization Office at Ames Research Center.

7. During this period, approximately 100 flash sheets were received from the NASA Distribution Center at Bethesda. These had already been given an interim evaluation by another research institute. In line with instructions from NASA, these sheets were distributed to various SwRI staff members for brief review to determine if SwRI had a specific interest in conducting detailed evaluations on any of them.

8. More than 100 Tech Briefs, several Technology Utilization Reports and the Technology Handbook, "Welding for Electronics Assemblies," were received during this period. These documents are distributed to the directors of our departments and our Houston office. The remaining copies supplied us are made available to Institute clients who, on visiting SwRI, are informed about the NASA Technology Utilization Program and find particular briefs or other technical documents of interest.